AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1.   (currently amended): A ~~Method~~ method for engineering traffic between an ingress router and an egress router of a packet network, the method comprising:

~~said traffic being scheduled~~ scheduling traffic within ~~said~~ an ingress router in queues pertaining to different service classes~~,~~;

~~said method further including a step of~~ determining a part of the traffic which will follow a dedicated tunnel between said ingress router and ~~said~~ an egress router;

~~characterized in that~~

~~said method includes the~~ provisioning ~~of~~ a tunnel queue dedicated to said part of the traffic intended to flow via said dedicated tunnel, for separately and temporarily storing said part of the traffic towards said dedicated tunnel; and

~~said method further includes a step of~~ shaping said part of the traffic towards said dedicated tunnel before ~~entering in said~~ transmitting said part of the traffic in said tunnel.

2.   (currently amended): ~~Method~~ The method according to claim 1, wherein:

~~characterised in that~~

~~said method includes the provisioning of~~ a set of tunnel queues is provisioned, associated to said dedicated traffic tunnel, each tunnel queue within said set pertaining to a different service class .

3.   (currently amended): ~~Method~~ The method according to claim 2, wherein:

~~characterised in that~~

a separate shaper is provided to each tunnel queue of said set ~~a separate shaper is provided~~ for shaping the traffic from said each tunnel queue of said set.

4.   (currently amended): ~~Method~~ The method according to claim 2, wherein:

~~characterised in that~~

said set of tunnel queues is associated to a plurality of dedicated traffic tunnels, pertaining to the same egress interface of said ingress router.

5.   (currently amended): ~~Method~~ The method according to claim 1, further comprising:

~~characterised in that~~

~~said method includes a step of~~ monitoring the traffic via said dedicated tunnel,

~~a step of~~ comparing the result of said monitoring with a reserved bandwidth for said dedicated tunnel, and,

depending upon the result of said comparison, ~~a step of~~ informing a network

administrator <u>of information regarding the result of said comparing</u> by sending a message to said

network administrator.

6.   (currently amended): ~~Method~~ <u>The method</u> according to claim 4<u>, further</u>

<u>comprising:</u>

~~characterised in that~~

~~said method includes a step of~~ monitoring the traffic via said plurality of dedicated

tunnels at said egress interface~~;~~<u>;</u>

~~a step of~~ comparing the result of said monitoring with a reserved bandwidth for said

plurality of dedicated tunnels~~;~~<u>;</u> and~~,~~

depending upon the result of said ~~comparison~~ <u>comparing</u>, ~~a step of~~ informing a network

administrator <u>of information regarding the result of said comparing</u> by sending a message to said

network administrator.

7.   (currently amended) ~~Method~~ <u>The method</u> according to claim 5<u>, wherein:</u>

~~characterised in that~~

upon receipt of a message indicating that the traffic through said dedicated tunnel~~,~~

~~respectively said plurality of dedicated tunnels,~~ exceeds a predetermined value, said network

administrator increases the reserved bandwidth, whereas a new path or paths are calculated for

said dedicated tunnel, ~~respectively said plurality of dedicated tunnels~~, between said ingress

router and said egress router.

8.   (currently amended): ~~Method~~ The method according to Claim 1, wherein:

~~characterised in that~~

said provisioning ~~of~~ said tunnel queue ~~or of said set of tunnel queues~~ is dependent upon

the sending, by said network administrator, of a message enabling said method.

9.   (currently amended): ~~Ingress~~ An ingress router ~~(I)~~ of a packet network, ~~said~~

~~ingress router being adapted to route packets within said packet network to an egress router of~~

~~said packet network via at least one dedicated tunnel (LSP1, LSP2) to said egress router, said~~

~~ingress router (I) including at least one plurality of queues (AF1,…,Afn, EF, BE, CT) pertaining~~

~~to different service classes, said ingress router being adapted to temporarily store incoming~~

~~packets within one of these queues, on the basis of their service class and on the basis of their~~

~~destination~~ comprising:

~~characterised in that~~

~~said ingress router (I) further includes~~ at least one tunnel queue ~~(QLSP1, QLSP2)~~

dedicated and associated to said at least one dedicated tunnel ~~(LSP1, LSP2)~~, said at least one

tunnel queue temporarily storing part of the incoming packets;

~~said ingress router (I) is further adapted to temporarily store part of the incoming packets~~

~~within said at least one tunnel queue (QLSP1, QLSP2) within said ingress router,~~

~~whereby said ingress router further includes~~ at least one tunnel shaper, ~~(SLSP1, SLSP2)~~ associated to said at least one dedicated tunnel ~~(LSP1, LSP2)~~, ~~and adapted to shape~~ wherein the tunnel shaper shapes the traffic of said at least one dedicated tunnel ~~(LSP1, LSP2)~~.

10.   (currently amended): ~~Ingress~~ The ingress router ~~(I)~~ according to claim 9, further comprising:

~~characterised in that~~

~~said ingress router further includes~~ at least one set of tunnel queues, pertaining to different service classes, and associated to said at least one dedicated tunnel.

11.   (currently amended): ~~Ingress~~ The ingress router ~~(I)~~ according to claim 10, further comprising:

~~characterised in that~~

~~said ingress router further includes~~ at least one set of tunnel shapers associated to said at least one dedicated tunnel.

12.   (currently amended): ~~Ingress~~ The ingress router ~~(I)~~ according to claim 10, wherein:

~~characterised in that~~

said at least one set of tunnel queues pertaining to different service classes, is associated

to a plurality of dedicated tunnels pertaining to the same egress interface of said ingress router.

13.   (canceled): ~~Ingress~~ The ingress router ~~(I)~~ according to claim 9, further

comprising:

~~characterised in that~~

~~said ingress router (I) includes~~ a monitoring device ~~(M1) adapted to monitor~~ which

monitors the traffic of said at least one dedicated tunnel ~~or of said plurality of dedicated tunnels~~,

~~to compare~~ compares said traffic with a predetermined threshold related to a reserved bandwidth

for said at least one dedicated tunnel ~~or said plurality of dedicated tunnels~~, and ~~to generate~~

generates a message to a network administrator depending on the result of said comparison.

14.   (currently amended): ~~Ingress~~ The ingress router ~~(I)~~ according to claim 9,

wherein:

~~characterised in that~~

said at least one tunnel queue is enabled based on a determination as to whether or not to

enable said at least one tunnel queue to receive packets intended for said at least one dedicated

tunnel, said determination made from a predetermined message received ~~said ingress router is~~

~~further adapted to receive a predetermined message~~ from said network administrator, said

message related to the enabling of said at least one tunnel queue ~~or said set of tunnel queues, and~~

~~to determine therefrom whether or not to enable said at least one tunnel queue for receiving~~

~~packets intended to said at least one dedicated tunnel~~.